CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

INVESTIGATIVE ORDER NO. R9-2015-0058

AN ORDER DIRECTING BNSF RAILWAY, CALIFORNIA DEPARTMENT OF TRANSPORTATION, CITY OF LA MESA, CITY OF LEMON GROVE, CITY OF SAN DIEGO, METROPOLITAN TRANSIT SYSTEM, NATIONAL STEEL AND SHIPBUILDING COMPANY, SAN DIEGO UNIFIED PORT DISTRICT AND U.S. NAVY TO SUBMIT TECHNICAL REPORTS PERTAINING TO AN INVESTIGATION OF SEDIMENT QUALITY IN THE MOUTH OF CHOLLAS CREEK, SAN DIEGO BAY, SAN DIEGO COUNTY, CALIFORNIA

The California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) finds that:

1. **Legal and Regulatory Authority:** This Order conforms to and implements policies and requirements of the Porter-Cologne Water Quality Control Act (Division 7, commencing with Water Code section 13000) including (1) sections 13267 and 13304; (2) applicable State and federal regulations; (3) all applicable provisions of statewide Water Quality Control Plans adopted by the State Water Resources Control Board (State Water Board) and the *Water Quality Control Plan for the San Diego Basin* (Basin Plan) adopted by the San Diego Water Board including beneficial uses, water quality objectives, and implementation plans; (4) State Water Board policies and regulations, including State Water Board Resolution No. 68-16, *Statement of Policy with Respect to Maintaining High Quality of Waters in California,* Resolution No. 88-63, *Sources of Drinking Water,* Resolution No. 92-49, *Policies and Procedures for Investigation, and Cleanup and Abatement of Discharges under Water Code Section 13304;* the *Water Quality Control Plan for Enclosed Bays and Estuaries -Part 1 Sediment Quality;1* California Code of Regulations (CCR) Title 23, Chapter 16, Article 11; CCR Title 23, section 3890 et. seq.; and (5) relevant standards, criteria, and advisories adopted by other State and federal agencies.

2. **Geographical Extent of the Mouth of Chollas Creek Investigation:** The area to be investigated, the Mouth of Chollas Creek, is specifically defined in this Order as the area bounded on the east by the weir located downstream of the Belt Street Bridge, on the north by the National Steel and Shipbuilding Company (NASSCO) pier, and to the south by Naval Base San Diego Pier 1 extending to the end of the piers (as illustrated in Figure 1). The area is approximately 24.9 acres (0.101 km^2).

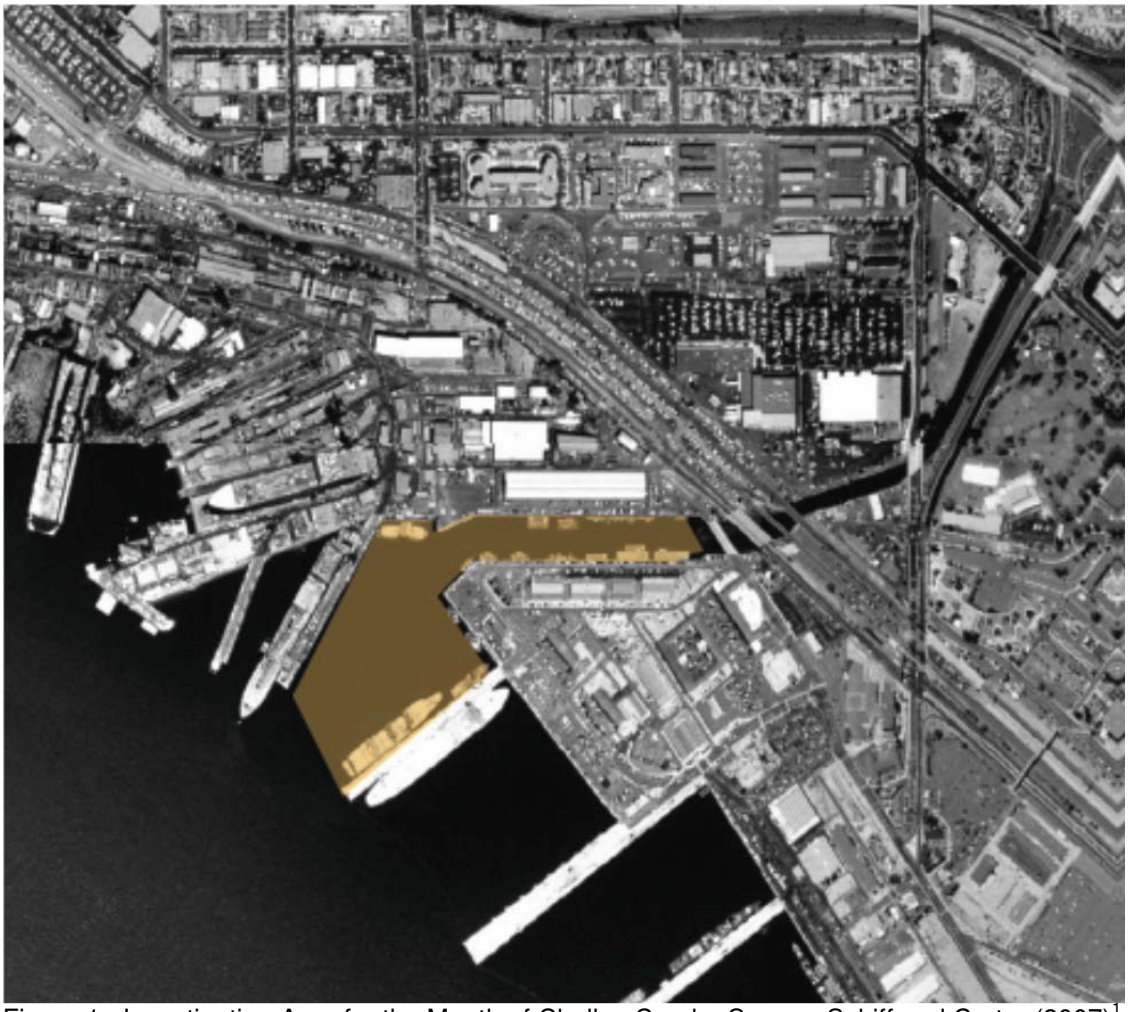

Figure 1. Investigation Area for the Mouth of Chollas Creek. Source: Schiff and Carter (2007)[1]

3. **Chollas Creek Tidal Prism:** A small portion of the watershed includes "tidelands" located immediately adjacent to San Diego Bay under the jurisdiction of the San Diego Unified Port District and the U.S. Navy (Naval Base San Diego). This Chollas Creek Tidal Prism receives storm water from the upland watershed via creek drainage, storm water discharge from the neighboring facilities, and tidal influence from San Diego Bay.

4. **Chollas Creek Watershed:** Chollas Creek is an urban creek with the highest flow rates associated with storm events, and highly variable flows for the rest of the year. Extended periods with no surface flows occur during dry weather, although pools of standing water may be present. The Mouth of Chollas Creek has been channelized and concrete lined, but some sections of earthen creek

[1] Schiff, K. and S. Carter. 2007. Monitoring and Modeling of Chollas, Paleta, and Switzer Creeks. Technical Report No. 513. Southern California Coastal Water Research Project, Costa Mesa, CA, and Tetra Tech, Inc., San Diego, CA. May 2007.

bed remain. The lowest 1.2 miles of the Creek are on the 303(d) List of Water Quality Limited Segments for water quality impairments for indicator bacteria, copper, lead, and zinc.

The Chollas Creek watershed encompasses approximately 69.7 km^2 (17,223 acres) of the Pueblo San Diego Hydrologic Unit located within the cities of San Diego, Lemon Grove, and La Mesa (Figure 2). Land use within the Chollas Creek watershed is predominantly residential with some commercial and military uses. A significant portion of the remaining watershed area is dominated by roadways and railways.

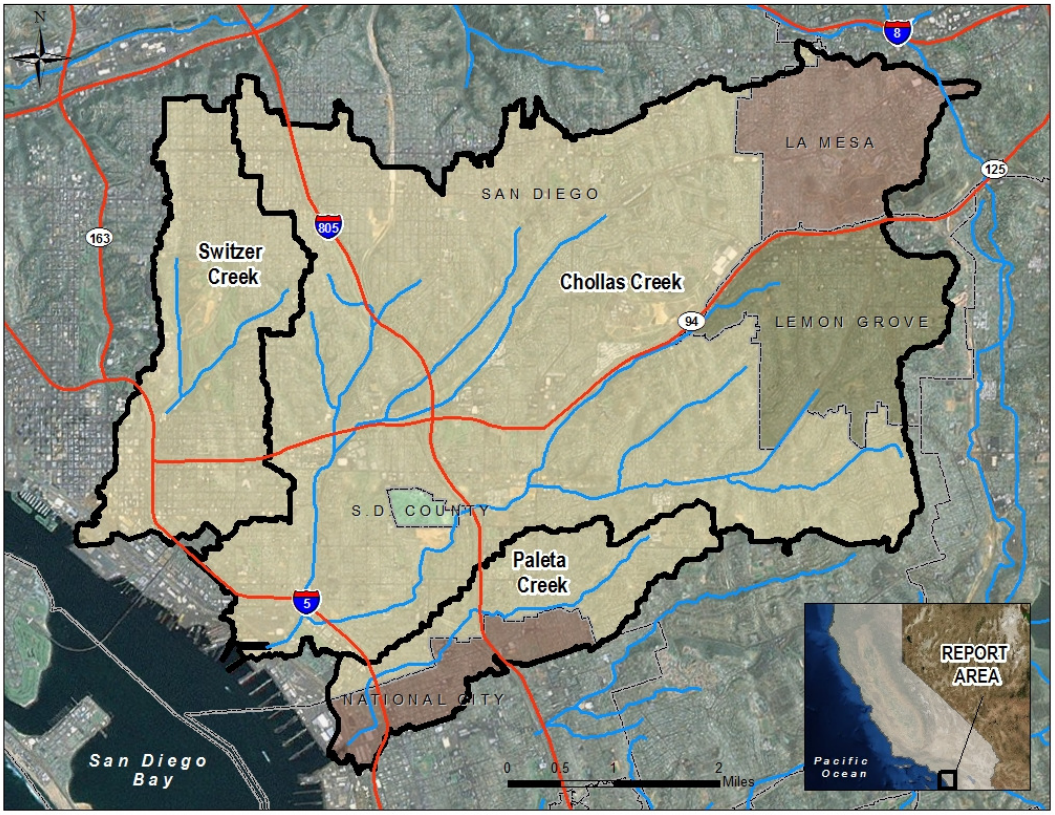

Figure 2. Location of San Diego Bay, Paleta Creek, Chollas Creek, and Switzer Creek watersheds.

5. **Mouth of Chollas Creek Impairment:** The Mouth of Chollas Creek is on the Clean Water Act section 303(d) list for benthic community degradation and toxicity in the sediment. The Mouth of Chollas Creek is also designated as a candidate toxic hot spot in the Regional Toxic Hot Spot Cleanup Plan under the Bay Protection and Toxic Cleanup Program (BPTCP).[2]

[2] State Water Resources Control Board, September 1996. Chemistry, Toxicity and Benthic Community Conditions in Sediments of the San Diego Bay Region.

6. **Identification of Pollutant Sources:** Multiple point and nonpoint sources discharge pollutant loads into the Mouth of Chollas Creek. Point sources typically discharge at a specific location from pipes, outfalls, and conveyance channels. These discharges into surface waters are regulated by the San Diego Water Board or State Water Board through Waste Discharge Requirements (WDRs) that implement federal National Pollutant Discharge Elimination System (NPDES) requirements. Nonpoint sources are diffuse in nature, such as sheet flow or atmospheric deposition (precipitation and dust fall) that have multiple routes of entry into surface waters.

   Pollutants can be deposited either directly into a water body or onto land surfaces where the pollutants wash off during storm events. Storm water runoff from urbanized areas flows off of land with a number of different uses, including residential uses, commercial and industrial uses, and roads, highways, and bridges. Sources of pollutants can include storm drain discharges, discharges or spills from permitted industrial facilities, illicit discharges, sewage spills, or other nonpoint sources. Essentially, all sources (point and nonpoint) in the watershed enter the Mouth of Chollas Creek through the storm water conveyance systems that are regulated through the NPDES permits listed in Table 1.

Table 1. Regulated Storm Water Discharges in Chollas Creek Watershed.

WDR/Permit	Order No.
San Diego Municipal Storm Water NPDES Permit	R9-2013-0001
NPDES Storm Water from Small MS4s	2013-0001-DWQ
NPDES Industrial Storm Water	97-03-DWQ
NPDES Construction Storm Water	2009-0009-DWQ
NPDES Storm water from Caltrans	2012-0011-DWQ

   Other likely point and nonpoint source pollutant loads include storm water runoff from adjacent industrial discharges (regulated by individual WDRs, ex. NASSCO [R9-2009-0099] and Naval Base San Diego [R9-2013-0064]), sediment resuspension and flux, leaching from creosote pier pilings, and direct atmospheric deposition of pollutants to the surface of the water body. Another source for sediment resuspension and migration are caused by boat and ship traffic near the Mouth of Chollas Creek.

   While the wasteloads of Polycyclic Aromatic Hydrocarbons (PAHs) are associated with ongoing activities, such as automobile and truck emissions in the watershed, the wasteloads of chlordane and Polychlorinated Biphenyls (PCBs) reflect residues accumulated from historical uses, applications, or spills that contaminated soils within the watershed and act as ongoing sources. In spite of these compounds being banned in the U.S., residual concentrations of these legacy pollutants continue to remain elevated in bay sediments.

7. **Presence of Wastes in the Mouth of Chollas Creek:** The Mouth of Chollas Creek receives discharges from the municipal separate storm sewer systems

(MS4s) of the City of Lemon Grove, the City of La Mesa, the City of San Diego, and the San Diego Unified Port District. The Mouth of Chollas Creek also receives storm water runoff discharges from the California Department of Transportation (Caltrans), BNSF Railway, Metropolitan Transit System (MTS), NASSCO, and various industrial facilities along Chollas Creek. During wet weather events, storm water discharges from various land uses provide a significant mechanism for transport of organic pollutants to surface water bodies. Pollutants from various land uses and associated management practices wash off the surface during rainfall events. The amount of runoff and associated pollutant concentrations are, therefore, highly dependent on the nearby land uses and management practices.

Sources of pollutants discharged to the MS4s conveyance system, include:

a. PAHs from roadways, parking surfaces, and creosote telephone/utility poles throughout the cities may enter the storm water conveyance system;
b. Pesticide impacted soils may enter the storm water conveyance system; and
c. PCB impacted soils may enter the storm water conveyance system.

Additionally, sediments that accumulate within storm drains and creeks during dry periods between storms are considered a source of pollutants to the Mouth of Chollas Creek areas in the bay during wet weather events.

Furthermore, the Mouth of Chollas Creek is tidally influenced; therefore, various pollutants from San Diego Bay may also be transported during tidal actions into the Mouth of Chollas Creek. Finally, another pollutant source to the Mouth of Chollas Creek may be from air deposition.

8. **Beneficial Uses and Target Receptors:** Water quality objectives must support the most sensitive beneficial uses of a water body. The Chollas Creek is located within the Lindbergh Hydrologic Subarea (908.21) in the San Diego Mesa Hydrologic Area (908.20) of the Pueblo San Diego Hydrologic Unit (908.00). San Diego Bay has the following beneficial uses that apply to the Mouth of Chollas Creek: Commercial and Sports Fishing; Shellfish Harvesting; Estuarine Habitat; Marine Habitat; Wildlife Habitat; and Rare, Threatened, or Endangered Species. Table 2 lists the beneficial uses along with its target receptors.

Table 2. Beneficial Uses and Target Receptors[3]

Beneficial Uses	Target Receptors
Estuarine Habitat	Aquatic Life – Benthic Community
Marine Habitat	Aquatic Life – Benthic Community
Rare, Threatened, or Endangered Species	Aquatic – Dependent Wildlife
Wildlife Habitat	Aquatic – Dependent Wildlife
Commercial and Sport Fishing	Human Health
Shellfish Harvesting	Human Health

These beneficial uses could be impacted by contaminants discharged from facilities to bay sediments.

9. **Caltrans:** Polluted storm water runoff from Caltrans' owned and/or operated roadways and facilities have been, and continue to be, discharged directly and indirectly into Chollas Creek. These discharges cause, and threaten to cause, a condition of pollution by unreasonably affecting the waters for beneficial uses. Roadway and pavement runoff from Caltrans' highways and facilities contains organic and inorganic pollutants that can impair receiving water quality and disrupt aquatic and benthic ecosystems. Storm water discharges from roadways may contain pollutants, including suspended solids, heavy metals, hydrocarbons, indicator bacteria and pathogens, nutrients, herbicides, and deicing salts (Grant et al. 2003[4]). In recent years, Caltrans has reported measureable amounts of pesticides in storm water discharges, primarily the herbicides diuron and glyphosate; the active ingredient in Roundup® (Caltrans 2003a[5], 2003b[6]). The principal sources of pollutants from roadways are atmospheric deposition, automobiles, and the road surfaces themselves (Grant et al. 2003).

10. **Municipal Storm Water Copermittees:** The Cities of La Mesa, Lemon Grove, San Diego; and the San Diego Unified Port District own and/or operate MS4s that discharge storm water runoff directly into Chollas Creek. These pollutant discharges are regulated by the San Diego Water Board through Order No. R9-2013-0001, WDRs that implement federal NPDES requirements. These discharges cause, and threaten to cause, a condition of pollution by unreasonably affecting the waters for beneficial uses.

[3] Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1 Sediment Quality, State Water Resources Control Plan, August 2009.
[4] Grant, S.B., N.V. Rekhi, N.R. Pise, R.L. Reeves, M. Matsumoto, A. Wistrom, L. Moussa, S. Bay, and M. Kayhanian. 2003. A Review of the Contaminants and Toxicity Associated with Particles in Stormwater Runoff. CTSW-RT-03-059.73.15. Prepared for California Department of Transportation, Sacramento, CA. August 2003.
[5] Caltrans. 2003a. 2002 – 2003 Annual Data Summary Report. CTSW-RT-03-069.51.42. California Department of Transportation, Storm Water Monitoring & Data Management. August 2003.
[6] Caltrans. 2003b. Discharge Characterization Study Report. CTSW-RT-03-065.51.42. California Department of Transportation, Storm Water Monitoring & Data Management. November 2003.

11. **Railway:** BNSF Railway and MTS own and/or operate rail lines and facilities that cross over Chollas Creek, and that are within the Chollas Creek watershed. These rail lines and facilities discharge polluted storm water runoff directly and indirectly into Chollas Creek. These discharges cause, and threaten to cause, a condition of pollution by unreasonably affecting the waters for beneficial uses. Pollutants related to railway sources include heavy metals, PAHs, PCBs, and petroleum products. The main sources of pollutants from daily rail operations include: (1) wooden ties (PAHs); (2) herbicides (diuron and glyphosate) for vegetation control; (3) fuelling and lubrication (PAHs); and (4) wear-and-tear processes (heavy metals).

12. **NASSCO:** Polluted storm water discharges from NASSCO are discharged directly and indirectly into Chollas Creek. These discharges cause, and threaten to cause, a condition of pollution by unreasonably affecting the waters for beneficial uses. Historically, some pollutants were discharged directly into Chollas Creek and San Diego Bay. NASSCO owns and operates a full service ship construction, modification, repair, and maintenance facility on the waterfront of San Diego Bay and west of the Mouth of Chollas Creek. The facility is located on land and leased from the San Diego Unified Port District at 28th Street and Harbor Drive in San Diego. NASSCO's primary business has historically been ship repair, construction, and maintenance for the U.S. Navy and commercial customers. The facility includes offices, shops, warehouses, concrete platens for steel fabrication, a floating dry dock, a graving dock, two shipbuilding ways, and five piers, which provide 12 berthing spaces (RWQCB, 2001[7]).

    There are three major types of building/repair facilities at NASSCO, which, together with cranes, enable ships to be assembled, launched, or repaired. These facilities include a floating drydock, a graving dock, and berths/piers. With the exception of berths and piers, the basic purpose of each facility is to separate a vessel from the bay to provide access to parts of the ship normally underwater. The berths and piers are over-water structures where vessels are tied during repair or construction activities. Because drydock space is limited and expensive, many operations are conducted at pier side. For example, after painting the parts of a ship normally underwater, the ship is moved from the drydock to a berth where the remainder of the painting is completed.

    NASSCO initiated the capture of first-flush storm water from high-risk areas (drydock, graving dock, paint and blasting areas) in the early 1990s. Capture of first-flush storm water was extended to additional areas of the facility in 1997. Prior to the early 1990s, all surface water runoff from NASSCO discharged directly into San Diego Bay (Exponent, 2003[8]). Currently, NASSCO discharges

[7] RWQCB. 2001. Final Regional Board Report: Shipyard Sediment Cleanup Levels, NASSCO & Southwest Marine Shipyards, San Diego Bay. California Regional Water Quality Control Board, San Diego Region, San Diego, CA. February 16, 2001.
[8] Exponent. 2003. NASSCO and Southwest Marine Detailed Sediment Investigation Volumes I - III. Prepared for NASSCO and Southwest Marine, San Diego, CA. Exponent, Bellevue, WA. October 2003.

storm water from employee parking lots into Chollas Creek, which contain oil and grease and PAHs that are deposited on parking lot surfaces by motor-vehicles.

Categories of wastes commonly generated by NASSCO's industrial processes include the following (RWQCB, 2012[9]):

Abrasive Blast Waste: Abrasive blast waste, consisting of spent grit, spent paint, marine organisms, and rust is generated in significant quantities during all dry or wet abrasive blasting procedures. The constituent of greatest concern, with regard to toxicity, is the spent paint; particularly the copper and tributyltin antifouling components, which are designed to be toxic and to continuously leach into the water. Other pollutants in paints include zinc, chromium, and lead. Abrasive blast waste can be conveyed by water flows, become airborne (especially during dry blasting), or fall directly onto receiving waters.

Blast Wastewater: Hydroblasting generates large quantities of wastewater. In addition to suspended and settleable solids (spent abrasive, paint, rust, marine organisms) and water, blast wastewater also contains rust inhibitors, such as diammonium phosphate and sodium nitrite.

Bilge Waste/Other Oily Wastewater: This waste is generated during tank emptying, leaks, and cleaning operations (bilge, ballast, fuel tanks, etc.). In addition to petroleum products (fuel, oil), the washwater is generated in large quantities and contains detergents or cleaners.
Oils (engine, cutting, and hydraulic): In addition to spent products, fresh oils, lubricants, and fuels are released as a result of spills and leaks from ship or drydock equipment, machinery, and tanks (especially during cleaning and refueling).

Fresh Paint: Discharge of paint can occur from spills, drips, and overspray.

Waste Paints/Sludges/Solvents/Thinners: These wastes are generated from cleaning and maintenance of paint equipment.

Construction/Repair Solid Wastes: These wastes include scrap metal, welding rods, slag (from arc welding), wood, rags, plastics, cans, paper, bottles, packaging materials, etc.

Miscellaneous Wastes: These wastes include lubricants, grease, fuels, sewage (black and gray water from vessels or docks), boiler blowdown, condensate discard, acid wastes, caustic wastes, and aqueous wastes (with & without

[9] RWQCB. 2012. Technical Report for Tentative Cleanup and Abatement Order No. R9-2012-0024 for the Shipyard Sediment Site, San Diego Bay, San Diego, CA – Volumes I, II, and III. California Regional Water Quality Control Board, San Diego Region. San Diego, CA. March 14, 2012. Available at: http://www.waterboards.ca.gov/sandiego/water_issues/programs/shipyards_sediment/index.shtml

metals).

13. **U.S. Navy:** Polluted storm water discharges from the U.S. Navy are discharged directly and indirectly into Chollas Creek. These discharges cause, and threaten to cause, a condition of pollution by unreasonably affecting the waters for beneficial uses. Historically, some pollutants were discharged directly into Chollas Creek and San Diego Bay. Since1921, the U.S. Navy has owned and operated Naval Base San Diego, located at 32nd Street and Harbor Drive on the eastern edge of San Diego Bay, and provides logistical support to numerous U.S. Navy vessels. The facility is bordered by the City of San Diego to the north and east, National City to the south and east, and San Diego Bay to the west. Chollas Creek discharges into San Diego Bay in the northern portion of Naval Base San Diego.

    Historically, Naval Base San Diego has served as a docking and fleet repair base. In the 1920s and 1930s, it was extensively used for the repair and maintenance of U.S. Navy Destroyer vessels. The base expanded during the late 1930s to the late 1940s. From 1943 to 1945 more than 5,000 ships were sent to the base for conversion, overhaul, battle damage repair, and maintenance; approximately 2,190 of these ships were dry docked. The base was expanded in 1944 to include approximately 823 acres, over 200 buildings, a 1,700 ton marine railway, a cruiser graving drydock, five large repair piers, quaywall totaling 28,000 feet of berthing space, and extensive industrial repair facilities. Naval Base San Diego remains in operation and is currently homeport for approximately 60 naval vessels and home base to 50 separate commands.

    In 1998, the U.S. Navy dredged a small portion of the Mouth of Chollas Creek. Despite the dredging action, impacts at the Mouth remained, as evidenced by elevated chemistry and toxicity results from the summer of 2001[10].

14. **Persons Responsible for the Discharge of Waste:** The City of Lemon Grove, the City of La Mesa, the City of San Diego, the San Diego Unified Port District, Caltrans, U.S. Navy, NASSCO, BNSF Railway, and MTS are responsible persons for discharges of wastes to sediment in the Mouth of Chollas Creek. As described in Findings 3 – 13, various waste constituents originated at facilities owned and/or operated by these entities and were transported to the Mouth of Chollas Creek where they cause, or threaten to cause, a condition of pollution or nuisance. Through the course of the investigation, additional information may become available that identifies additional potential dischargers or warrants naming additional persons as dischargers. The San Diego Water Board reserves

[10] Southern California Coastal Water Research Project (SCCWRP) and Space and Naval Warfare Systems Center (SPAWAR). 2005. Sediment Assessment Study for the Mouths of Chollas and Paleta Creek, San Diego, Phase I Report. Prepared by SCCWRP, Westminster, CA and SPAWAR, San Diego, CA for the San Water Board and Commander Navy Region Southwest, San Diego, CA.

and retains the right to name additional persons.

15. **Condition of Pollution:** The concentrations of contaminants in the sediments of the Mouth of Chollas Creek are at levels that may have an impact on human health, wildlife, and the benthic community. The elevated concentrations may not be protective for human health, wildlife, and the benthic community thus, creating a condition of pollution and nuisance in waters of the State.

16. **Basis for Requiring Reports:** Water Code section 13267 provides that the San Diego Water Board may require dischargers, past dischargers, or suspected dischargers to furnish those technical or monitoring reports as the San Diego Water Board may specify provided that the burden, including costs, of these reports bears a reasonable relationship to the need for the reports and the benefits to be obtained from the reports. Coordination among the responsible persons of the sediment investigation(s) is expected to provide a more comprehensive evaluation and be more cost-effective.

17. **Need for and Benefit of Technical Reports:** Technical reports are needed to provide information to the San Diego Water Board regarding the nature and extent of the discharges. The San Diego Water Board intends to use this information to determine if additional assessment and/or cleanup and abatement activities are warranted at the Mouth of Chollas Creek. Specifically, the reports will enable the San Diego Water Board to ascertain the extent and chemical concentrations of waste constituents in sediment that may pose a threat to the benthic community, human health, and/or wildlife. The Dischargers currently discharge pollutants into the Mouth of Chollas Creek, and/or have historically done so. Dischargers' cooperative reporting efforts may result in a cost reduction. Based on the nature and possible consequences of the discharges (as described in the Findings above) the burden of providing the required reports, including the costs, bears a reasonable relationship to the need for the reports, and the benefits to be obtained from the reports.

18. **Study Questions:** The San Diego Water Board identified the following study questions for the Mouth of Chollas Creek and Chollas Creek Tidal Prism:

    a. **Nature and Extent**: What is the current nature and extent of impairment related to contaminated sediment conditions in the Mouth of Chollas Creek and the Chollas Creek Tidal Prism?

        1. If existing data are not sufficient to understand current nature and extent of impairment (i.e., a data gap exists), identify a sampling strategy to fill that gap.
        2. Develop a work plan to identify the data that will be used to characterize the nature and extent of impairment in the areas discussed above.

3. Based on the identified data, characterize the nature and extent of impairment in the Mouth of Chollas Creek and the Chollas Creek Tidal Prism, and refine the existing site conceptual model.

b. **Potential Sources:** If impairment is identified, what are the potential sources of the impairment in the Mouth of Chollas Creek and the Chollas Creek Tidal Prism?

1. If existing data are not sufficient to understand potential sources of the impairment, identify a sampling strategy to fill that gap.
2. If necessary, develop a work plan to identify the data that will be used to characterize the potential sources of impairment in the areas discussed above.
3. Based on the identified data, characterize the potential sources of impairment in the Mouth of Chollas Creek and the Chollas Creek Tidal Prism, and refine the existing site conceptual model.

c. **Pathways and Contaminant Transport:** If impairment and ongoing sources are identified, what are the pathways for contaminant transport to and within the Mouth of Chollas Creek and the Chollas Creek Tidal Prism?

1. If existing data are not sufficient to understand the transport of potential source contaminants, identify a sampling strategy to fill that gap.
2. If necessary, develop a work plan to identify the data that will be used to characterize the transport of potential source contaminants in the areas discussed above.
3. Based on the identified data, characterize the transport pathways of potential source contaminants to and within the Mouth of Chollas Creek and the Chollas Creek Tidal Prism, and refine the existing site conceptual model.

19. **California Environmental Quality Act Compliance:** This action is exempt from the provisions of the California Environmental Quality Act (CEQA) in accordance with section 15061 (b)(3) of Chapter 3, Title 14 of the California Code of Regulations because it can be seen with certainty that there is no possibility that the activity in question will have a significant effect on the environment. CEQA will be complied with, as necessary; when and if remedial actions are proposed.

20. **Qualified Professionals:** The Discharger's reliance on qualified professionals promotes proper planning, implementation, and long-term cost-effectiveness of investigations. Professionals should be qualified, licensed where applicable, and competent and proficient in the fields pertinent to the required activities. California Business and Professions Code sections 6735, 7835, and 7835.1

require that engineering and geologic evaluations and judgments be performed by or under the direction of licensed professionals.

21. **Cost Recovery:** Pursuant to Water Code section 13304 (c), and consistent with other statutory and regulatory requirements, including but not limited to Water Code section 13365, the San Diego Water Board is entitled to, and will seek reimbursement for all reasonable costs actually incurred by the San Diego Water Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this Order.

IT IS HEREBY ORDERED, pursuant to Water Code sections 13267 and 13304 that BNSF Railway, California Department of Transportation, City of La Mesa, City of Lemon Grove, City of San Diego, Metropolitan Transit System, National Steel and Shipbuilding Company, San Diego Unified Port District and U.S. Navy (collectively Dischargers) must comply with the following directives:

1. **Phase 1 Work Plan:** Submit a Phase 1 Work Plan to evaluate the current nature and extent of impairment related to contaminated sediments in the Mouth of Chollas Creek and the Chollas Creek Tidal Prism. The Phase 1 Work Plan must be received by the San Diego Water Board **no later than 5:00 p.m. on November 19, 2015.** The Phase 1 Work Plan must contain the following:

    a. **Current Nature and Extent of Impairment:** An interpretation of the current nature and extent of impairment for the Mouth of Chollas Creek and the Chollas Creek Tidal Prism. Identify the additional data needed to fully characterize the nature and extent of impairment in the Mouth of Chollas Creek and the Chollas Creek Tidal Prism.

    b. **Data Gaps:** Include a strategy that investigates data gaps and additional data needs. Proposed sampling locations must be sufficient to fully characterize the nature and vertical and lateral extent of impairment including near storm drains, outfalls, under railways and roadways, and near pier pilings. The strategy must provide justification for all proposed sampling locations.

    c. **Map:** A detailed map to scale showing existing and proposed sample locations.

    d. **Laboratory Analyses:** The chemical analyses must include the full range of potential waste constituents including, at a minimum, total PCB congeners, metals, pesticides, PAHs, total organic carbon, and physical parameters. Sampling shall not proceed without concurrence of the San Diego Water Board.

e. **Sampling Protocols and Quality Assurance Project Plan (QAPP):** The sampling protocols and a QAPP.

f. **Mouth of Chollas Creek Proposed Maintenance Dredging:** The details of the proposed maintenance dredging in the Mouth of Chollas Creek. This must include the proposed dredging footprint, vertical extent, and proposed pre- and post-sediment sampling and analyses.

g. **Detailed Schedule:** A detailed schedule for completion of all Phase 1 activities including a schedule for the proposed maintenance dredging by the U.S. Navy and submission of the Phase 1 Report as described in Directive 2 below.

2. **Phase 1 Report:** Submit a Phase 1 Report describing the results from implementing the Phase 1 Work Plan. The Phase 1 Report must include a refined Conceptual Site Model (CSM) that incorporates all of the data, identifies data gaps, and additional data needs, if any. The CSM must identify potential sources causing the impairment in the Mouth of Chollas Creek and the Chollas Creek Tidal Prism.

   The Phase 1 Report must include a map showing the location of all current and historic storm water conveyance features including inlets, catch basins, and discharge points to the Mouth of Chollas Creek and Chollas Creek Tidal Prism. The Report must be received by the San Diego Water Board **no later than 5:00 p.m. on August 31, 2016.**

3. **Phase 2 Work Plan:** Submit a Phase 2 Work Plan that investigates potential sources of impairment identified in the Phase 1 Report. The Phase 2 Work Plan must be received by the San Diego Water Board **no later than 5:00 p.m. on November 4, 2016.** The Phase 2 Work Plan must contain the following:

   a. **Potential Sources**: A strategy to investigate all potential sources identified in the Phase 1 Report discharging to the Mouth of Chollas Creek and the Chollas Creek Tidal Prism.[11]

   b. **Potential Pathways**: Identify potential pathways for contaminant transport to and within the Mouth of Chollas Creek and Chollas Creek Tidal Prism.

   c. **Map**: A detailed map to scale showing the location and elements of all potential pollutant sources discharging to the Mouth of Chollas Creek and Chollas Creek Tidal Prism.

[11] This may include investigating the Chollas Creek Watershed as a potential source.

d. **Sample Locations:** Proposed samples must be collected within all catch basins and similar junctions where accessible, and at intervals adequate to detect potential sources. In addition, samples must be collected at locations designed to assess contributions from potential pollutant sources such as businesses with industrial activities or other pollutant generating activities within the current MS4. The proposed sampling strategy must identify the sample number, location, and provide justification for the sampling intervals within the MS4.

e. **Sampling Protocols and QAPP:** The sampling protocols and a QAPP.

4. **Phase 2 Report:** Submit a Phase 2 Report describing the results from implementing the Phase 2 Work Plan. The Report must include a discussion on the sources and the pathways for contaminant transport to the Mouth of Chollas Creek and the Chollas Creek Tidal Prism. The Phase 2 Report must also include a refined CSM that incorporates all of the data and conclusions based on the results of the Phase 1 and Phase 2 investigations and provide recommendations for additional work, if needed. The Phase 2 Report must be received by the San Diego Water Board **no later than 5:00 p.m. on June 30, 2017.**

5. **Compliance Dates:** The compliance dates for the Work Plans and Reports required by this Order are summarized below in Table 3.

Table 3. Compliance Dates for Work Plans and Reports

Directive	Requirement	Due Date
1	Phase 1 Work Plan	November 19, 2015
2	Phase 1 Report	August 31, 2016
3	Phase 2 Work Plan	November 4, 2016
4	Phase 2 Report	June 30, 2017

An extension of due date(s) may be granted by the San Diego Water Board for good cause.

6. **Penalty of Perjury Statement:** All reports must be signed by the Discharger's corporate officer or its duly authorized representative, and must include the following statement by the official, under penalty of perjury, that the report is true and correct to the best of the official's knowledge.

> I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware

that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

7. **Electronic Data Submittals:** The Electronic Reporting Regulations require electronic submission of any report or data required by a regulatory agency from a cleanup site after July 1, 2005.[12] All information submitted to the San Diego Water Board in compliance with this Order is required to be submitted electronically via the Internet into the GeoTracker database http://geotracker.waterboards.ca.gov (GeoTracker Site ID. T10000006999). The electronic data must be uploaded on or prior to the regulatory due dates set forth in the Order or addenda thereto. To comply with these requirements, the Dischargers must upload to the GeoTracker database the following minimum information:

   a. **Electronic Report:** A complete copy of all work plans, assessment, cleanup, and monitoring reports, including the signed transmittal letters, professional certifications, and all data presented in the reports.

   b. **Laboratory Analytical Data:** Analytical data (including geochemical data) for all bay sediment and water samples in Electronic Data File (EDF) format.

8. **Violation Reports:** If the Dischargers violate any requirement of this Order, then the Dischargers must notify the San Diego Water Board office by telephone as soon as practicable once the Dischargers have knowledge of the violation. The San Diego Water Board may, depending on violation severity, require the Dischargers to submit a separate technical report on the violation within five working days of telephone notification.

9. **Other Reports:** The Dischargers must notify the San Diego Water Board in writing prior to any Discharger's facilities' activities that have the potential to cause further migration of pollutants.

10. **Provisions:**

   a. **Waste Management:** The Dischargers shall properly manage, store, treat, and dispose of contaminated sediments in accordance with applicable federal, State, and local laws and regulations. The storage, handling, treatment, or disposal of sediment associated with this assessment must not create conditions of nuisance as defined in Water Code section 13050(m).

[12] Chapter 30, Division 3 of Title 23 and Division 3 of Title 27, California Code of Regulations.

b. **Contractor/Consultant Qualifications:** All reports, plans, and documents required under this Order must be prepared under the direction of appropriately qualified professionals. A statement of qualifications and license numbers, if applicable, of the responsible lead professional and all professionals making significant and/or substantive contributions must be included in the report submitted by the Dischargers. The lead professional performing engineering and geologic evaluations and judgments must sign and affix their professional geologist or civil engineering registration stamp to all technical reports, plans, or documents submitted to the San Diego Water Board.

c. **Laboratory Qualifications:** All samples must be analyzed by California State-certified laboratories using methods approved by the United States Environmental Protection Agency (USEPA) for the type of analysis to be performed. All laboratories must maintain Quality Assurance/Quality Control (QA/QC) records for the San Diego Water Board to review.

d. **Laboratory Analytical Reports:** Any report presenting new analytical data is required to include the complete Laboratory Analytical Report(s). The Laboratory Analytical Report(s) must be signed by the laboratory director and contain:

1. Complete sample analytical reports;
2. Complete laboratory QA/QC reports;
3. A discussion of the sample and QA/QC data; and
4. A transmittal letter that indicates whether or not all the analytical work was supervised by the director of the laboratory, and contains the following statement "All analyses were conducted at a laboratory certified for such analyses by the California Department of Public Health in accordance with current USEPA procedures."

11. **Notifications**

a. **Cost Recovery:** Upon receipt of invoices, and in accordance with instruction therein, the Dischargers must reimburse the San Diego Water Board for all reasonable costs incurred by the San Diego Water Board to investigate discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this Order and consistent with the estimation of work.

b. **All Applicable Permits:** This Order does not relieve the Dischargers of the responsibility of obtaining permits or other entitlements to perform necessary assessment activities. This includes, but is not limited to, actions that are subject to local, State, and/or federal discretionary review

and permitting.

c. **Enforcement Discretion:** The San Diego Water Board reserves its right to take any enforcement action authorized by law for violations of the terms and conditions of this Order.

d. **Enforcement Notification:** Failure to comply with requirements of this Order may subject the Dischargers to enforcement action, including but not limited to administrative enforcement orders requiring the Dischargers to cease and desist from violations, imposition of administrative civil liability, pursuant to Water Code section 13268 in an amount not to exceed $1,000 for each day in which the violation occurs, referral to the State Attorney General for injunctive relief, and referral to the District Attorney for criminal prosecution. The Dischargers are jointly and severally liable for the entire amount of the administrative civil liability. The San Diego Water Board reserves the right to seek administrative civil liability from any or all of the Dischargers.

e. **Requesting Administrative Review by the State Water Board:** Any person affected by this action of the San Diego Water Board may petition the State Water Board to review the action in accordance with section 13320 of the Water Code and California Code of Regulation Title 23 section 2050. The petition must be received by the State Water Board (Office of Chief Counsel, P.O. Box 100, Sacramento, California 95812) within 30 calendar days of the date of this Order. Copies of the law and regulations applicable to filing petitions will be provided upon request.[13]

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JAMES G. SMITH
Assistant Executive Officer

[13] Nothing in this Order prevents the Dischargers from later petitioning the State Water Resources Control Board to review other future San Diego Water Board orders regarding the Mouth of Chollas Creek, including but not limited to subsequent investigative orders and/or cleanup or abatement orders, if any. Upon such petition, the San Diego Water Board will not assert that the Dischargers have previously waived or forfeited their right to petition the San Diego Water Board's action or failure to act under Water Code section 13320. Further, upon such petition, the San Diego Water Board will not assert that the Dischargers are precluded from petitioning for review of future orders by any failure to petition for review of this Order.